Peaceful Nuclear Cooperation

U.S. Support for NPT Article IV

UNITED STATES & KAZAKHSTAN

Through the International Atomic Energy Agency (IAEA), the United States contributes to the work of many countries using nuclear materials and technology for peaceful purposes. In recent years, U.S. support has focused on achieving tangible and lasting benefits in fields that are vital to human development, including agriculture, human health, water resource management, and human resource development. Since 2000, the IAEA has approved and funded $6,478,474, including $303,455 in 2013, under its Technical Cooperation (TC) program for projects in Kazakhstan.

In addition to the United States' longstanding support for the IAEA's activities to promote peaceful nuclear applications, at the 2010 NPT Review Conference, the United States announced a $100 million USD effort to expand this support over the next five years. The United States has pledged $50 million towards the IAEA's Peaceful Uses Initiative (PUI), focusing on human health, food security, water resource management, and nuclear power infrastructure development.

The United States views its support for peaceful uses of nuclear energy, to which all NPT Parties are entitled, as a critical part of its broader effort to strengthen the IAEA and the global nuclear nonproliferation regime. The U.S. has already designated over $22 million for IAEA projects benefitting over 120 countries, including Kazakhstan, for which funding was previously unavailable. The United States is working with partners to reach the $100 million goal, and welcomes commitments of over $12 million from Japan, the Republic of Korea, New Zealand, the Czech Republic, Hungary, Sweden, Australia, France, Indonesia, Brazil, Italy, the UK and Kazakhstan.

NUCLEAR ENERGY

Due to the continued increase in fossil fuel prices, concerns about secure supply and an increasing awareness of the importance of greenhouse gas reductions, several countries are considering expanding their nuclear power programs or introducing nuclear energy for the first time. This requires careful planning, preparation and investment in a sustainable infrastructure to provide the legal, regulatory, technological, and human resources necessary. Kazakhstan is therefore participating in a regional TC project sponsored by the United States to strengthen national and regional infrastructures for the planning and development of nuclear power programs. The project will ensure that any Member State planning the introduction or expansion of nuclear energy has a complete understanding of the range of issues and activities to be addressed before implementation of a nuclear power project.

NUCLEAR FUEL

Recently, several countries, including Kazakhstan, participated in U.S.-sponsored regional TC projects to convert research reactor cores from highly enriched uranium (HEU) to low enriched uranium (LEU) and facilitate the return of highly enriched and low-enriched uranium to the country of origin. The projects assisted participating countries with research reactors to repatriate, manage, or dispose of their fresh or irradiated fuel, and supported the Russian Research Reactor Fuel Return program and the Global Threat Reduction Initiative.

Kazakhstan is also working through a national TC project sponsored by the United States to convert fuel from the WWR-K research reactor from high to low enriched uranium in order to reduce the risk of nuclear proliferation.

NUCLEAR SAFETY

Radioactive sources are widely employed for beneficial purposes throughout the world, in areas including industry, medicine, and agriculture. However, with their use the IAEA works with Member States to establish strong and sustainable nuclear safety and security frameworks to protect

1. *Nuclear power plant under construction. Credit: IAEA*
2. *Exploring ways to secure radioactive waste for generations to come. Credit: Comet*
3. *Verifying a load of highly enriched uranium fuel before it is brought back to Russia. Credit: Dean Calma/IAEA*

people, society and the environment from the harmful effects of ionizing radiation.

Kazakhstan is currently participating in an interregional TC project sponsored by the United States to strengthen the efficient clean-up of radioactive contaminated facilities and sites. Through this project, barriers to the acceptance of continued or expanded applications of peaceful uses of nuclear technology can, to some extent, be removed.

Kazakhstan is also participating in several regional TC projects through which Member States will improve their comprehensive regulatory infrastructure for the safety and control of radiation sources, establish and develop adequate and effective regulatory mechanisms, and harmonize and streamline national capabilities for regulatory control in full compliance with the IAEA Safety Standards and international requirements.

AGRICULTURE

In parts of the Balkans and the Eastern Mediterranean, the Mediterranean fruit fly causes major damage to fruit and vegetable production by reducing fruit production, increasing insecticide use, and therefore directly impacting the production cost of agricultural commodities. Moreover, it causes problems in international trade in fruits and vegetables due to quarantine regulations imposed by some countries, and maximum insecticide residue limits allowed by others.

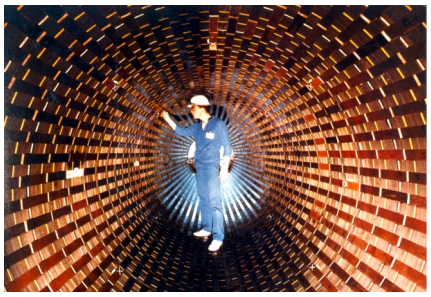
Kazakhstan is working through a regional TC project sponsored by the United States to enhance agricultural productivity in the Balkans and Eastern Mediterranean by supporting fruit fly pest prevention and management. This will be accomplished through sharing technical knowledge and providing support to selected fruit fly suppression programs in which the use of the sterile insect technique (SIT), as part of an area-wide integrated management approach, has already proven to be technically and economically feasible.

HUMAN RESOURCES

To contribute to Member States' manpower development, the IAEA awards individual fellowships and organizes group training courses.

Since 2000, the United States has hosted multiple training courses that included Kazakhstani participants in fields such as safety, fuel storage, nuclear security, waste disposal, decommissioning, environmental remediation, and expanding nuclear power programs. Training was also provided through the IAEA Fellowship Program to three Kazakhstanis in the fields of power reactors, radiation, and radioisotopes.

Additionally, since 2000, 15 U.S. experts have traveled to Kazakhstan to collaborate through various IAEA Technical Cooperation projects. Examples of some topics include record keeping, risk management, radiochemistry, and decommissioning.



1. *Standard maintenance check. Credit: Arthus-Bertrand*
2. *Damaged apples infested with fruit flies. Credit: Louise Potterton/IAEA*
3. *IAEA fellows receive training in plant breeding. Credit: Dean Calma/IAEA*

Through bilateral efforts, the United States has provided direct support to Member States through various collaborative projects such as the exchange of information, expert visits, and training of personnel.

In 2010, the U.S. Department of Energy's National Nuclear Security Administration (DOE/NNSA) began collaborating with Kazakhstan regarding ways to strengthen its State System of Accounting and Control (SSAC) of nuclear material. The contribution of DOE/NNSA to Kazakhstan in 2010 was $878,000. and in 2012, $906,000.

Also, the U.S. International Nuclear Safeguards and Engagement Program (INSEP) has collaborated with Kazakhstan regarding strengthening the SSAC; the Materials Protection, Control and Accounting (MPC&A) Center; Additional Protocol implementation; uranium accounting at mines; laws, regulations and procedures; and, nuclear material accountancy at the Ulba Metallurgical Plant.